ABSTRACT OF THE DISCLOSURE

The present invention relates to a preparation method of solid titanium catalyst for olefin polymerization comprising the steps of: (1) preparing a magnesium compound solution by dissolving a magnesium halide compound into a mixed solvent of a cyclic ether and one or more of alcohol; (2) preparing a carrier by adding firstly a titanium halide compound to the magnesium compound solution at low temperature, elevating the temperature of the resulted solution or aging it, and then thereto adding secondly the titanium halide compound additionally; (3) preparing a titanium catalyst by reacting the carrier with a titanium compound and an electron donor; and (4) washing the titanium catalyst with hydrocarbon solvent at high temperature.